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(54) FORMATION OF GLASS FILM

(57)Abstract:

PURPOSE: To form the title glass film useful for IC package sealing, etc., free of pinholes, and having excellent airtightness by applying and printing a glass paste consisting of low-melting-point glass powder, a sublimable binder, and a solvent on a body to be coated, degreasing the material in an inert atmosphere, then heating, and melting the material.

CONSTITUTION: A vehicle consisting of PbO-B₂O₃ based low-melting-point glass powder having about 400°C softening point, a low-temp. sublimable binder [e.g., 'Dianal (R)' made by the Mitsubishi rayon], and a solvent such as butylcarbitol acetate is mixed with glass powder in 9/1 weight ratio of the powder to vehicle to obtain a glass paste. The paste is then applied or serially screen-printed four to five times on a body to be coated (e.g., the sealing surface of a package substrate made of alumina). The material is heated at a temp. up to the softening temp. of the glass powder in an inert atmosphere, and degreased. The material is then heated at a temp. higher than the softening temp. to melt the glass powder, and then cooled to form a glass film on the body to be coated.